

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRUNO G. ROBERT

Appeal No. 1998-1341
Application 08/358,792

ON BRIEF

Before, HAIRSTON, FLEMING and BARRY, **Administrative Patent Judges.**

FLEMING, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 3 through 7, 10, 11, 14 through 34 and 36 through 38. Claims 8, 9, 12, 13 and 35 are objected to. Claims 1 and 2 have been canceled.

The invention relates to a system for tracking a target using mobile tracking stations. On page 9 of the specification, Appellant identifies that the target has a

transmitter which transmits a signal in response to a tracking initiating event. The target is tracked by a mobile receive station and a mobile transmit and receive station. Each of the mobile tracking stations contains a means for determining the position of the tracking station. The means for determining the position uses a Global Positioning System (GPS) or a Global Orbiting Navigation Satellite System (GLONASS). On page 10 of the specification, Appellant identifies that the mobile stations also include a means for receiving the signal transmitted by the target and means for determining the direction (bearing) of the target relative to the mobile stations. The mobile transmit and receive station transmits its position and the bearing to the target. On page 11 of the specification, Appellant identifies that the mobile receive station receives the position and bearing data from the mobile transmit and receive station. On pages 11 and 12 of the specification, Appellant identifies that the mobile receive station also has a computer which uses the position of both the mobile stations and the bearing to the target from both of the stations to determine the position of the target.

Independent claim 28 is illustrative of the invention and is reproduced as follows:

28. A tracking system for locating or tracking a mobile target by triangulation in a region that lacks a fixed participating navigation reference in the vicinity of said target, said system comprising:

first and second mobile tracking stations adapted for transgressing said region in the vicinity of said target and for cooperatively providing instantaneous position references for locating a target by triangulation;

a transmitter disposed at said target for broadcasting a communication signal in response to an initiation event;

said first mobile tracking station further including a position determination unit utilizing a navigation reference external of said region for determining a first instantaneous position indicative of the position of said first mobile tracking station while transiting the vicinity of the target, a bearing determination unit including a receiver for receiving the communication signal from said target and for determining a first target bearing indicative of the relative direction to said target from said first mobile tracking station on the basis of said communication signal, and a transmitter unit for transmitting said first target bearing information and said first instantaneous position of the first tracking station;

said second mobile tracking station further including a receiver for receiving said first target bearing and said first instantaneous position transmitted by said first mobile tracking station, a position determination unit utilizing a navigation reference external of said region for determining a second instantaneous position indicative of the position of said second mobile tracking station while transiting the vicinity of the target, a second bearing determination unit adapted for determining a second target bearing indicative of the relative direction to said target from said second tracking station on the basis of said communication signal transmitted from said target transmitter; and

a processor for analyzing said first and second instantaneous positions of said first and second mobile tracking stations and said first and second target bearings thereby to ascertain by triangulation the exact position of said target.

The Examiner relies upon the following references:

Angeloni	3,828,306	Aug. 06, 1974
Haemmig	3,984,807	Oct. 05, 1976
Reagan	4,177,466	Dec. 04, 1979
Gray et al. (Gray)	5,003,317	Mar. 26, 1991

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Fraughton et al. (Fraughton)	5,153,836	Oct. 06, 1992
Sorden et al. (Sorden)	5,311,197	May 10, 1994
Bird	5,418,537	May 23, 1995
Gray et al. (Gray)	5,003,317	Mar. 26, 1991

Claims 3, 4, 6, 7, 10, 11, 14 through 18, 20, 22, 24, 25, 28 through 34 and 36 through 38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton and Angeloni.¹

Claims 5, 19 and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Bird.

Claim 21 stands rejected under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Haemmig.

Claim 26 stands rejected under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Sorden.

Claim 27 stands rejected under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Gray.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the briefs² and the answer for the respective details thereof.

¹It is noted that claim 23 is rejected under 35 U.S.C. § 103 based upon Reagan, Fraughton, Angeloni and Bird, in the final office action dated January 9, 1997. In the Examiner's answer (answer), Claim 23 is rejected under 35 U.S.C. § 103 based upon Reagan, Fraughton, Angeloni and also based upon Reagan, Fraughton, Angeloni and Bird. For the purposes of appeal we will consider the rejection of claim 23 as being based upon Reagan, Fraughton, Angeloni and Bird.

²Appellant filed an appeal brief (brief) on July 29, 1997. On February 6, 1998 Appellant filed a reply brief. On July 15, 1998 the Examiner mailed a communication stating that the reply brief had been

Opinion

After careful consideration of evidence before us, we disagree with the Examiner's rejection of claims 3 through 7, 10 through 11, 14 through 34 and 36 through 38 under 35 U.S.C. § 103.

We first consider the rejection of claims 3, 4, 6, 7, 10, 11, 14 through 18, 20, 22, 24, 25, 28 through 34 and 36 through 38 under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton and Angeloni. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been lead to the claimed invention by the express teachings or suggestions found in the prior art or by the implication contained in such teachings or suggestions. *In re Sernaker*, 702 F.2d 989,995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention. " *Para-Ordance Mfg. V SGS Importers Int'l Inc.*, 73 F3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995) (*citing W. L. Gore & Assocs., Inc.v. Garlock Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)).

On page 4 of the answer, the Examiner sets forth the rejection. The Examiner states the Reagan discloses a vehicle tracking system where mobile tracking stations

considered and entered.

detect a tracking signal from the vehicle being tracked. Further, the Examiner states that Reagan teaches that triangulation is used to determine the location of the vehicle being tracked. The Examiner relies upon Fraughton to teach a tracking system where the position of the tracking station can be determined by GPS. The Examiner relies upon Angeloni to teach the use of triangulation using tracking signal bearings from tracking stations. On page 5 of the answer, the Examiner asserts “transmitting position and bearing data from one station to a processing station would have been an obvious technique to one of ordinary skill in the art, in order that mobile units would not have been restricted by any wiring constraints.” Further, on page 6 of the answer, the Examiner asserts that since Angeloni teaches that the plotter is at one of the stations, it is clear that the plotting station would receive position and bearing data from the other stations.

Appellant asserts on page 6 of the brief that the rejection based upon 35 U.S.C. § 103 is in error as it fails to treat elements expressly recited in the claims. More specifically, on pages 8 and 9 of the brief appellant asserts that the combination of reference do not teach “cooperatively providing instantaneous position references.” Appellant asserts that the claims require the mobile tracking stations communicate their location and bearing. Appellant further asserts that Angeloni does not disclose that the

tracking stations transmit their position as they are fixed stations. On page 14, of the brief, Appellant asserts that Reagan's mobile stations do not intercommunicate as is claimed.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." *In re Hiniker Co.*, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). "[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification." *In re Hyatt*, slip 99-1182 (Fed. Cir, May 12, 2000), (citing *In re Graves*, 96 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995) and *In re Etter*, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985)). We find that the scope of independent claims 14, 24, 28 and 36 includes a mobile tracking unit which determines its position, determines the bearing to the target and broadcasts the position and bearing data. Further, we find that the scope includes that the data is used to locate the target.

This scope is shown in the claim 14 recitation of "providing a first and a second mobile tracking stations . . . determining the direction of origin of said radio signal relative to the first station . . . a) determining the position of said first station . . . transmitting said position and said direction of origin from said first station . . . subsequently triangulating said position of said target."

This scope is shown in the claim 24 recitation of “mobile tracking and positioning unit . . . a position determination device for determining the position of said mobile tracking and positioning unit; a direction finder for determining the direction of origin of said broadcast radio signal . . . transmitting position information determined from said positioning determination device and direction information . . . processing said position and direction information . . . to locate said target.”

This scope is shown in the claim 28 recitation of “first and second tracking stations . . . determining a first instantaneous position indicative of the position of said first mobile tracking station . . . determining a first target bearing indicative of the relative direction to said target from said first mobile tracking station . . . transmitting said first target bearing information and said first instantaneous position of the first tracking station . . . analyzing the first and second instantaneous positions of said first and second mobile tracking stations and said first and second target bearings thereby to ascertain by triangulation the exact position of said target.”

This scope is shown in the claim 36 recitation of “first mobile tracking stations . . . determining the instantaneous position of said first mobile tracking station . . . determining target bearing information indicative of the relative direction to said target . . . transmitting target bearing information and instantaneous position of the first tracking

station . . . analyzing the instantaneous positions of said first and second mobile tracking stations and the bearing information transmitted from said first and second mobile tracking stations thereby to ascertain by triangulation the exact position of said target.”

We find that the combination of Reagan, Fraughton and Angeloni fails to teach or suggest a tracking system where each mobile tracking station determines its position, determines the bearing of the target relative to the mobile tracking station and transmits the bearing and position information, wherein the bearing and position information is used to locate the target. We find that Reagan teaches a system where there are mobile tracking stations which determine the direction of the target relative to the mobile tracking station. See column 2, line 26 to 29. Further, we find that Reagan teaches that the system may employ triangulation. See column 2, lines 22 through 25. However, we find that Reagan fails to teach that the position of the mobile tracking stations is determined or that the position of the tracking station and the bearing of the target are transmitted. Further, we find that Reagan does not teach or suggest how to perform triangulation.

We find that Angeloni teaches a system for locating a vehicle by using triangulation based upon bearing information received from stationary tracking stations.

See column 2, lines 15 through 29. We find that Angeloni fails to teach determining the positions of the stationary tracking stations. Further, we find that Angeloni fails to suggest

determining the position of the tracking station, as Angeloni teaches that the tracking stations are stationary. Thus, we find that Angeloni does not teach or suggest determining the position of the stations or that the bearing and position information are transmitted.

We find that Fraughton teaches a collision avoidance system where each aircraft contains a transmitter and receiver. Each aircraft also contains a GPS unit to determine the aircraft's position and encodes this position in its transmission. Each aircraft receives the position encoded transmissions from other aircraft and tracks the positions of the other aircraft. See abstract. We find that Fraughton teaches transmitting the aircraft position but does not teach that the bearing of other aircraft is transmitted.

We disagree with the Examiner's assertion regarding Reagan on page 5 of the answer, stating that "transmitting position and bearing data from one station to a processing station would have been an obvious technique to one of ordinary skill in the art." The Examiner has provided no evidence supporting this assertion. We are not inclined to dispense with proof by evidence when the proposition at issue is not

supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a ***prima facie*** case. ***In re Piasecki***, 745 F.2d 1468, 1471-72, 223 USPQ 785,

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787-88 (Fed. Cir. 1984); ***In re Knapp-Monarch Co.***, 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); ***In re Cofer***, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

Furthermore, our reviewing court states in ***In re Piasecki***, 745 F.2d 1468, 223 USPQ 785, 788 (Fed. Cir. 1984) the following:

The Supreme Court in ***Graham v. John Deere Co.***, 383 U.S. 1 (1966), focused on the procedural and evidentiary processes in reaching a conclusion under Section 103. As adapted to ex parte procedure, Graham is interpreted as continuing to place the "burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under section 102 and 103". ***Citing In re Warner***, 379 F.2d 1011, 1020, 154 USPQ 173, 177 (CCPA 1967).

We next consider the rejection of independent claim 27 under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Gray. On page 9 of the answer, the Examiner sets forth the statement of rejection, stating that Gray teaches the tracking of plural vehicles simultaneously.

We find that the scope of independent claim 27 includes at mobile tracking unit that determines it's position, determines the bearing to the target and broadcasts the position and bearing data. Furthermore, the scope includes that the data is used to

locate the target. This scope is shown in the claim 27 recitation of "at least first and a second mobile tracking stations . . . determining the direction of origin of said radio signals

from each of said plurality of targets relative to said first mobile station . . . a) determining the position of said first station . . . b) transmitting said instantaneous position and said direction of origin from said first mobile station . . . subsequently triangulating said positions of said targets.”

As stated above, we find that the combination of Reagan, Fraughton, Angeloni fail to teach or suggest a mobile tracking unit which determines it's position, determines the bearing to the target and broadcasts the position and bearing data. Further, we find that Gray fails to teach or suggest a mobile tracking station where the position of the tracking station and the bearing to the target are transmitted.

We next consider the rejection of dependent claims 5, 19 and 23. Claims 5, 19 and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Bird. As these claims are dependent upon either claims 28 or 14, they all contain the limitations addressed above with respect to claims 28 or 14. As stated above, we find that the combination of Reagan, Fraughton, Angeloni fail to teach or suggest a mobile tracking unit which determines it's position, determines the bearing to the target and broadcasts the position and bearing data. Further, we find

that Bird fails to teach or suggest a mobile tracking station where the position of the

tracking station and the bearing to the target are transmitted.

We next consider the rejection of dependent claim 21 under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Haemmig. As claim 21 is dependent upon claim 14, it contains the limitations addressed above with respect to claim 14. As stated above, we find that the combination of Reagan, Fraughton, Angeloni fails to teach or suggest a mobile tracking unit which determines its position, determines the bearing to the target and broadcasts the position and bearing data. Further, we find that Haemmig fails to teach or suggest a mobile tracking station where the position of the tracking station and the bearing to the target are transmitted.

We next consider the rejection of dependent claim 26 under 35 U.S.C. § 103 as being unpatentable over Reagan, Fraughton, Angeloni and Sorden. As claim 26 is dependent upon claim 24, it contains the limitations addressed above with respect to claim 24. As stated above, we find that the combination of Reagan, Fraughton, Angeloni fails to teach or suggest a mobile tracking unit which determines its position, determines the bearing to the target and broadcasts the position and bearing data. Furthermore, we find that Sorden fails to teach or suggest a mobile tracking station where the position of the tracking station and the bearing to the target are transmitted.

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For the foregoing reasons we reverse the rejection of claims 3 through 7, 10, 11,
14 through 24 and 36 through 38 under 35 U.S.C. § 103.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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